17. A high-voltage transistor comprising:

a drain of a first conductivity type;

a source of the first conductivity type;

a drift region of the first conductivity type extending in a vertical direction from the drain to the source, the drift region comprising first and second sections having substantially different first and second doping concentration gradients, respectively, the first section being disposed near the source with the second section being disposed directly beneath the first section, the first section having a lowest doping concentration nearest the source and a highest doping concentration nearest the second section, the second section having a lowest doping concentration nearest the first section, the highest doping concentration of the first section being substantially equal to the lowest doping concentration of the second section, and the first doping concentration gradient being less than the second doping concentration gradient; and

first and second field plate members respectively disposed on opposite sides of the drift region, each of the field plate members being insulated from the drift region by a dielectric layer.

18. The high-voltage transistor according to claim 17 wherein the first and second doping concentration gradients are each substantially linear.

19. The high-voltage transistor according to claim 17 wherein the second doping concentration gradient is at least 10% higher that the first doping concentration gradient.

20. The high-voltage transistor according to claim 17 further comprising a body region that separates the source from the drift region.

21. The high-voltage transistor according to claim 20 further comprising a third section of the drift region that separates the body region from the first section, the third section having a constant doping concentration.

22. The high-voltage transistor according to claim 21 wherein the third section has a vertical thickness greater than 0 μm, but not greater than 5.0 μm.

23. A high-voltage transistor comprising:

a drain of a first conductivity type;

a source of the first conductivity type;

a drift region of the first conductivity type extending in a first direction from the drain to the source, and comprising first and second sections having first and second doping concentration gradients, respectively, the first section being disposed a first vertical distance below the source and having a lowest doping concentration nearest the source and a highest doping concentration farthest from the source, the second section being disposed beneath the first section and having a lowest doping concentration nearest the first section and a highest doping concentration farthest from the first section, the highest doping concentration of the first section being substantially the same as the lowest doping concentration of the second section; and

first and second field plate members respectively disposed on opposite sides of the drift region, each of the field plate members being insulated from the drift region by a dielectric layer.

24. The high-voltage transistor according to claim 23 wherein the first and second doping concentration gradients are each substantially linear.

25. The high-voltage transistor according to claim 23 wherein the second doping concentration gradient is at least 10% higher that the first doping concentration gradient.

26. The high-voltage transistor according to claim 23 further comprising a body region that separates the source from the drift region.

27. The high-voltage transistor according to claim 26 wherein the first section is disposed a second vertical distance below the body region.

28. The high-voltage transistor according to claim 27 wherein the second vertical distance is greater than 0 μm, but not greater than 5.0 μm.

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